



the ILLINOIS ENGINEER

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I.S.P.E. 74th Convention Committee makes plans for Rockford meeting April 30, May 1 and 2. Front Row, left to right—John G. Shedd, A. J. Arnold, Mrs. Roger Ericson, R. T. Cash, Chairman. Standing, left to right—J. P. Murphy, G. E. Rynearson, Richard Thornton and Donald E. Huffman.

THE ILLINOIS ENGINEER
MARCH, 1959
VOLUME XXXV, NO. 3

74TH ANNUAL CONVENTION
APRIL 30, MAY 1 and 2
ROCKFORD — FAUST HOTEL

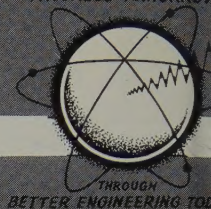


THE ILLINOIS ENGINEER

ILLINOIS SOCIETY OF PROFESSIONAL ENGINEERS, Incorporated

Affiliated with the National Society of Professional Engineers

PROGRESS TOMORROW



THROUGH BETTER ENGINEERING TODAY

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THE ILLINOIS ENGINEER

ISSUED MONTHLY BY THE ILLINOIS SOCIETY OF ENGINEERS. FOUNDED 1886

VOL. I

PRESIDENT, A. L. WEBSTER,
WHEATON

FEBRUARY, 1925

SECRETARY, H. E. BABBITT,
URBANA

No. 1

PROCEEDINGS OF THE ANNUAL MEETING

The Fortieth Annual Meeting passes into the records as another of the recent successful and interesting conventions of the Society. The total registration was 204 of which 81 were members. This is the largest registered attendance on record. It exceeds the record set last year at Urbana by 37 registrants and 22 members.

Papers Presented. All of the sessions were well attended including the opening session and the business session at which it is sometimes difficult to get a quorum. The papers were presented closely in the same order as is shown on the final program published in the January issue of the *Bulletin*. The time devoted to each session proved adequate to allow plenty of lively discussion which was enjoyed by the participants and listeners, although the evening sessions were somewhat late in adjourning. From the number of papers presented it is probable that all will not appear in the Annual Proceedings but between the Proceedings and the *Illinois Engineer* every paper read, some that were not read, and most of the discussion will be published.

Annual Dues. The move towards an increase in the annual dues was probably the most interesting event at the business session. A motion was passed to the effect that the constitution be amended to provide for annual dues of \$5.00 from active members. This proposal will go through the required procedure for constitutional amendments so that each member will have an opportunity to vote upon it before it becomes effective. A report of the matter from the Board of Direction is printed on page four of this issue.

Secretary's Report. The high spots of the Secretary's report showed that our income from advertisements last year was approximately \$200 less than for any year in the last twenty. In spite of this the finances of the Society are in good condition, the total assets being greater than a year ago. The net increase in membership during the past year was 18 making a total of 273; the largest membership in the history of the Society.

Next Meeting Place. Mr. H. J. Harman's invitation to meet in Peoria was accepted.

Election of Officers. Our new president, Mr. A. L. Webster, of Wheaton has been, without doubt, the most active individual supporter of the Society during the past

(Continued on Page 2, Col. 1)

CITY PLANNING AND PROGRESS IN ILLINOIS

By JACOB L. CRANE, JR., Member, City Plan Engineer, Chicago.

City Planning and Zoning are going strong in Illinois. No less than 15 towns and cities have comprehensive city plans completed or under way, and 30 communities have their zoning ordinances in operation. These towns and cities include Rockford, East St. Louis, Jackson, Springfield, Waukegan, Decatur, Danville, Chicago, Highland Park, Lake Forest, Glencoe, Winnetka, Wilmette, Kenilworth, Evanston, Deerfield, Des Plaines, Park Ridge, Wheaton, Glen Ellyn, Downers Grove, Western Springs, LaGrange, Berwyn, Cicero, DeKalb, Joliet and a number of others. It is safe to say that no town or city that has undertaken to guide and control its future development by zoning and city planning would for a moment consider returning to the old haphazard, costly style of growth.

A project of great significance has been undertaken in the Chicago district, namely, the Chicago Regional Plan. A Regional Planning Association has been organized covering the entire territory within fifty miles of the City of Chicago, including parts of Kenosha County, Wisconsin, Lake and Porter Counties, Indiana, and nine counties in Illinois. More than two hundred municipalities are represented. The Regional Planning Board considers that the future metropolis of the world will be this great inter-connected regional city and its purpose is to survey the future needs and prepare plans for its orderly and economical development toward a definite regional city ideal.

There has been some skepticism regarding city planning because in some instances a few years ago nice looking plans were prepared and these were cubby-holed without any practical effectiveness. In most of the cities in Illinois which have undertaken city planning in recent years, however, definite and practical accomplishment of great importance for the future has resulted. The designation of the location for main roads leading into and through the towns is one of the most important accomplishments. As land is subdivided these roads are designated in the proper location and of the proper width so as to fit in the outer highway system. In fact all new subdivisions are examined and the subdividers are required to meet definite city planning standards before the subdivision can be recorded.

(Continued on Page 2, Col. 2)

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A SUGGESTION

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IN THIS MAGAZINE

This Bulletin reaches approximately 500 engineers every month except June, July, August and September. Space on this front page catches their eye better than circulars or cards and costs less. Rates may be had by application to the Secretary.

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Reproduced above is a page from Vol. I, No. 1, of THE ILLINOIS ENGINEER, published in February, 1925. With the publication of this month's issue, the Illinois Society of Professional Engineers begins its 35th year of publication of our magazine.

It is interesting to note that THE ILLINOIS ENGINEER was sent to approximately 500 persons in 1925. Upon entering the 35th year of publication, THE ILLINOIS ENGINEER circulation has been increased sixfold, with your society anticipating doubling that number in the not-too-distant future.

Shall we increase this number to 20 times that of the original circulation, or 10,000, by our fortieth year of publication?

PRESIDENT'S MESSAGE

By FRANK W. EDWARDS

PROFESSIONALISM HAS ITS PRICE

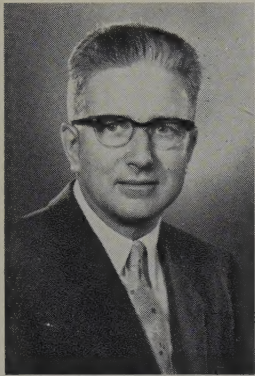
(Note: Based on a talk given before the I.S.P.E. Chapter Officers' Conference.)

All newly elected officers of I.S.P.E. chapters throughout the state have my best wishes for a successful and satisfying year ahead.

Two pertinent questions might be asked. If you are an engineer employed in industry, why are you not a member of a union? If you are an engineer employed under civil service of the Federal Government, why did you get a raise in salary during the last session of Congress?

Professionalism Threatened

You say you are not interested in joining a union? Surprisingly enough your lack of interest may be insufficient reason. This incongruous situation existed a few years ago and may exist again.



In the administration of the Wagner Labor Act of 1935, engineers were forced against their will to become members of heterogeneous unions. Laborers who had no knowledge of or interest in professional matters were in control and engineering as a profession was being strangled.

Frank W. Edwards Effective solution to the problem was delayed 12 years before the professional employee provisions in the Taft-Hartley law gave the engineer freedom of choice.

We are threatened again. The Kennedy-Ives Bill passed by the Senate during the last session of Congress failed to include the professional employee clause. If the act had become law, engineers and other professionals could again be required to join unions in order to keep their jobs. N.S.P.E. and the state societies are prepared to fight again for the professional clause in labor legislation now before Congress.

Group Action Helpful

Regarding the question of salary increases, your society took steps to assure higher salaries for engineers in the Federal Civil Service. During the last session salary increases were authorized by Congress but the two houses disagreed on details, so the bill reached conference committee for final revision. One house favored a 10 per cent increase for all civil service workers, while the other excluded engineers and scientists because earlier they had been advanced to the top rate in their respective classifications by an administrative order. Your society was instrumental in securing the additional 10 per cent for scientists and engineers, also.

It should be noted that results were obtained on these matters by group action. It is our privilege and

our duty as members of a profession to promote group action for further progress.

Problems Ahead

Problems confront us in all areas of our activities, i.e., education, employment practices, ethics, fees and salaries, legislation, and assimilation of young engineers into the profession.

A report from our education committee indicates none of our engineering schools in Illinois has more than two-thirds of its engineering faculty licensed in practice engineering. I am not concerned particularly about faculty members, but I am disturbed very much by the fact that these people are teaching the engineers of tomorrow.

Lack of indoctrination in professionalism is a serious deficiency. Experience in Ohio indicates student chapters can be helpful, but student chapters cannot be started and cannot continue in existence without helpful advice, assistance and encouragement from professional engineers. There is a tremendous field for development here. Time, effort, and money (you must spend money) must be spent to accomplish worthwhile results.

Yes, there is no end to our problems. There is no method of attainment of our goals on a "get rich quick" basis. We must pay the price if we are to fulfill the obligations entrusted to us.

Adequate Presentations Needed

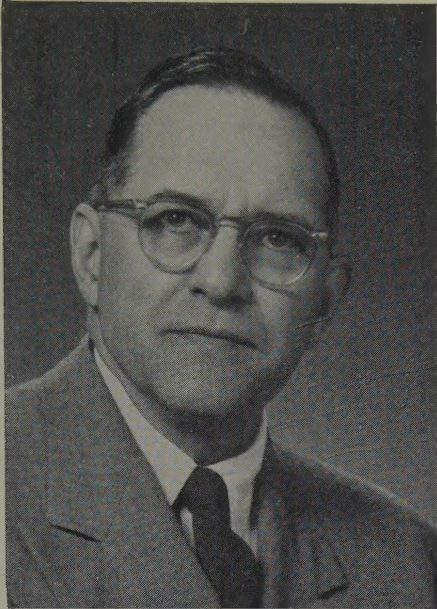
Solution of each major problem requires first a clear idea, then a marshalling of data followed by analysis, then logical presentations before the chapters and the Board of Direction. Information presented to the Board for action on any subject should be complete, like any engineering report. The presentation should answer the questions on why action should be taken, how results can be accomplished, who can do the job effectively, what will be the cost, and how the money can be raised.

The price for professionalism must be paid by individuals in terms of time, energy, effort, ingenuity, and money. This price, however, is like an investment in high grade securities. There is every assurance that the yield on the investment will be high. Many have worked for you. You benefit today from their efforts. Are you willing to work for others?

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1959-60 I.S.P.E. OFFICERS-ELECT

**DONALD S. MAGOWAN**

Donald S. Magowan, President-elect, joined I.S.P.E. as a State member in 1945, and as a National member in 1948. He served as Chicago Chapter Vice President in 1947 and as President in 1948; on the Convention Committee in 1948, as I.E.C. Representative in 1952, 1953 and 1954. He also was a member of the Professional Education Committee from 1952-1955. "Mac" holds the distinction of having also been President of Capital Chapter in 1953 and of DuKane in 1957.

He was graduated from the State University of Iowa with a B. A. degree in Civil Engineering in 1920, and received a Civil Engineering degree in 1924. He is registered as a professional engineer in Illinois and Iowa, and is a registered land surveyor in Illinois.

Magowan worked in Iowa before joining the Illinois Division of Highways, where he served in Districts 7 and 10 and in the Executive Office in Springfield as well as the Bureau of Local Roads in Springfield. He is now District Engineer of District 1 at Elgin.

He and his wife, Lorna, reside at 258 N. Hamilton, Elgin, and are the parents of three children: Marilyn, a graduate of MacMurray College and a registered nurse, now teaching nursing at St. John's Hospital in Springfield; Donald, recently completed service with the U. S. army; and Kenneth, a student at the University of Colorado.

His hobbies include fishing, bowling and golf.

Professor Thomas C. Shedd of the University of Illinois has been recommended for the 1958 Illinois Award by the I.S.P.E. Awards Committee. The recommendation will be submitted to the next Board Meeting for approval; and assuming that approval is given, Professor Shedd will receive the honors at the 74th Annual Meeting in Rockford May 1.

**LE VERNE D. HUDSON**

Le Verne D. Hudson, Vice President Elect, became a member of Capital Chapter in 1939 and served this past year as Assistant to President Frank Edwards, in charge of the Public Relations Group of Committees. As a member of the I.S.P.E.'s Constitution and By-Laws Committee, he helped in the formulation of the newly adopted Society Constitution drafted by that group. Hudson was born and reared in Chicago. Following graduation from Crane Technical High School, he attended the University of Illinois, receiving a Bachelor of Science Degree in Civil Engineering in 1936. He obtained his Master's Degree at the University of Michigan in 1952. He began his engineering career as an assistant engineer with Greeley & Hansen, Consulting Engineers of Chicago, and soon joined the staff of the Division of Sanitary Engineering of the Illinois Department of Public Health. He has been affiliated with that agency, working with Clarence W. Klassen for nearly 20 years, and is presently employed as Regional Sanitary Engineer for the 24 counties in west central Illinois.

During World War II, Hudson served for three years in the Army of the United States and held the Commission of Major. Because of his experience in health and sanitation activities, he worked on special assignment with the government in Columbia, South America, to develop fundamental sanitation programs and works in that country. His professional affiliations include membership in The American Water Works Association, The Federation of Sewage and Industrial Wastes Associations, and The American Public Health Association.

Hudson is a Past President of Capital Chapter and he has served as a Chapter Representative to the State Board of Direction for the past four years. "Verne", with his wife, Eleanor, and two daughters, resides at 2061 Huntleigh Road, Springfield. His hobby is music and he has been a member of the Springfield Symphony Orchestra for the past 11 years.

John Housiaux, Secretary-Elect of I.S.P.E.



JOHN E. HOUSIAUX

John E. Housiaux, Secretary-elect, became a member of Central Illinois Chapter in 1954 and served as president of the chapter in 1956. John served as Chapter representative to the Board of Directors in 1957 and 1958, as a member of the ISPE Convention Committee for the 73rd Annual Meeting, as Chairman of the Chapter Committee for Education and Professional Development in 1958, and as I.S.P.E. Chapter Activities Committee Chairman in 1958-59. He is also a member of the N.S.P.E., State Society and Chapter Activities Committee.

Housiaux was graduated from the University of Colorado with a B.S. in Mechanical Engineering in 1945, and received his Master of Science degree in 1949. He is a member of the American Society of Mechanical Engineers, a member of the U. S. Naval Research Reserve Program and Officer-in-Charge of the Decatur Panel. He is also a member of the American Nuclear Society.

John has been employed as a consulting engineer with Warren and Van Praag, Inc., Decatur, since 1953. He and his wife, Phillis, and their two children, John, age 10, and Joan, age 6, reside at 1201 West King Street, Decatur.

SPECIAL LEGISLATIVE BULLETIN

Senate Bill No. 46 has been introduced in the 77th General Assembly of Illinois by Senators Little, Bidwell, Drach and Arrington. This Bill is an Act to provide for the Civil Administration of the state government and its operation and to repeal certain acts therein named. The importance of this proposed Bill to the engineering profession comes from the fact that the Department of Registration and Education will be eliminated and the functions reassigned to other departments named in this particular measure.

The Sections pertinent to engineers are as follows:

(1) Section 34.1. The Department of Labor and Industry shall consist of a Director of Labor and Industry, a Division of Labor, a Division of Industry, an Industrial Commission and a Board of Review.

(2) Section 34.4. The Department, through its Division of Industry, shall have the responsibilities, duties and rights:

(a) To collect, collate, assort, systematize and report statistical details relating to commercial, industrial, social, educational and sanitary conditions, and to the permanent prosperity of the manufacturing and productive industries;

(b) To collect, collate, assort, systematize and report statistical details of the leading industries, manufacturing industries and commerce of the State;

(c) To acquire and diffuse information as to the conditions of employment, and such other facts as may be deemed of value to the industrial interests of the State;

(d) To license, supervise and regulate surveyors as provided by "*The Illinois Land Surveyors Act*";

(e) To license, supervise and regulate structural engineers as provided by "*The Illinois Structural Engineering Act*";

(f) To license, supervise and regulate detective and detective agencies as provided by "*An Act to provide for Licensing and Regulating Detectives and Detective Agencies*", approved June 26, 1933, as amended;

(g) To license, supervise and regulate professional engineers as provided by "*The Illinois Professional Engineering Act*";

(h) To license, supervise and regulate architects as provided by "*The Illinois Architectural Act*";

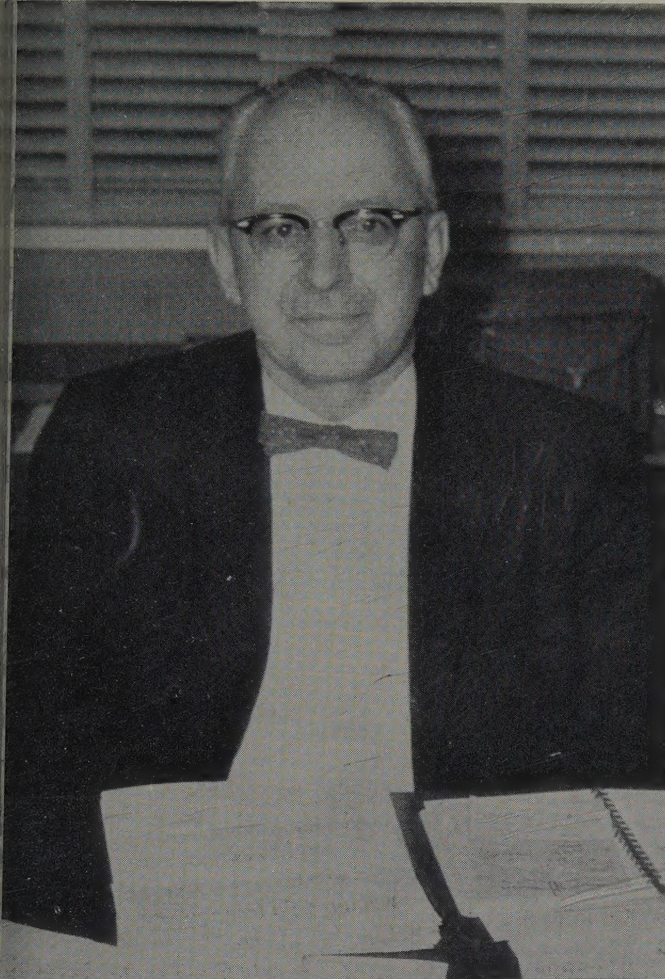
(i) To license, supervise and regulate real estate brokers and salesmen as provided by "*An Act in relation to the definition, registration and regulation of real estate brokers and real estate salesmen*", approved June 29, 1921, as amended;

(j) To register, supervise and regulate vocational schools as provided by "*An Act defining and providing for the registration and regulation of vocational schools and classes and the registration of solicitors of such schools, conferring powers and imposing duties on the*"

(Continued on Page 10)

MECHANIZATION IS AIDING THE HIGHWAY ENGINEER TO ACCOMPLISH THE EXPANDED HIGHWAY PROGRAM

*By H. L. BRANTLEY, Engineer of Aerial Surveys,
Illinois Division of Highways*



Herbert L. Brantley

Perhaps a word of explanation is necessary about the expanded program mentioned in the title of this article. If we go back only a few years, we will find that the highway expenditure for 1950 in Illinois was approximately \$27,000,000. The 1959 program published recently indicates that \$300,000,000 will be available for expenditure in 1959. It is true that a dollar does not buy as much road as it did a few years ago, but the complexity of design, higher property values making location more critical, and other factors influencing the necessary engineering have changed with the price trend, and it is doubtful if the engineering per dollar of expenditure has gone down. We all must be aware that the number of engineers, including those employed by consultants, has not increased by a factor of about 11 since 1950.

The steps that must be taken between the time that the decision is made to build a highway between two control points are many and some of them are of a tedious, time consuming nature. If the highway engineer expects to accomplish several times more work in the future than he has in the past, there are only two answers evident. The most obvious answer is to increase the available engineering manpower in proportion to the amount of work. Since this is evidently impossible, then he must utilize the second answer which is to become more efficient by mechanization. Fortunately, recent advances in the field of electronics and photogrammetry have given us a set of tools with which we may become more efficient.

Not many years ago, it was necessary to perform all reconnaissance work by walking over the terrain with an aneroid barometer taking approximate elevation readings and making certain measurements in order to obtain enough information to make an intelligent decision about the final location of a roadway.

Since the turn of the century, various mapping agencies have provided us with highly satisfactory small scale contour maps covering most of the state. These maps have simplified the problem of determining the general location, but the rapid increase in population places a relatively large portion of such maps in a state of obsolescence in a very few years. The advent of the aeroplane has given us a platform from which vertical photographs may be obtained. It is generally known that a vertical photograph is not a map, but it has become generally known that the intelligent use of vertical photos in conjunction with existing maps greatly enhances the value of the map. It has now become possible to accomplish a great portion of the reconnaissance survey in the office with the aid of maps and recently obtained aerial photography.



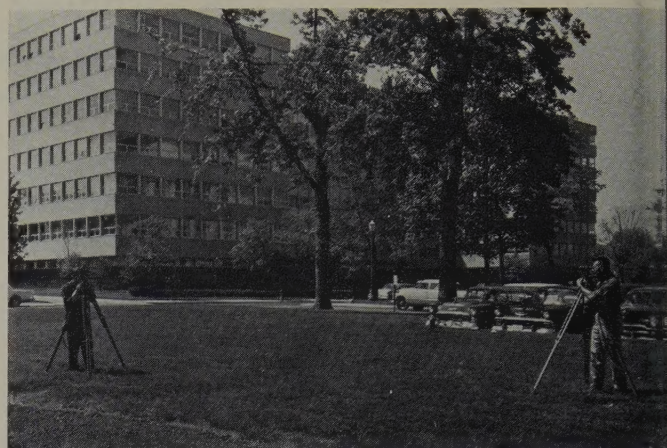
Cessna 310 Photographic Airplane and Crew

In many cases, the nature of the terrain or cultural features make it desirable or necessary that detailed quantitative studies be made prior to the final pin-pointing of the alignment. Where this has become necessary, a large scale map with contours, or at least an abundance of spot elevations, has generally been produced using field methods such as the plane table, transit and stadia, etc. Photogrammetry (the science of making measurements from photography) enables us to accurately map at any desired scale with a minimum of field information.

If the individual stereo models are controlled both horizontally and vertically, the photogrammetrist (with the aid of a stereoplotter) can produce a precise map which will include all of the cultural features shown on the photos as well as contours and spot elevations. The value of the photogrammetrically produced map depends upon the accuracy of the control points, and it has been found that it is necessary to use field instruments of a higher order than has been generally used in the past. Since the amount of field surveying required has been reduced to a bare minimum, the field survey work may now be accomplished using high order methods at a fraction of the cost of the usual type of highway survey.

The theodolite, practically unknown to the highway engineer of the past, is now generally accepted for obtaining the necessary traverse data.

The automatic level, an instrument used for differential leveling, is one of the modern instruments used for saving time and elimination of errors.



The Wild T-2 Universal Theodolite and Invar Subtense Bar in Use.

The tellurometer, an electronic instrument recently developed for measuring distance, will go a long way toward expediting the control survey. The manufacturer claims an accuracy of one part in 300,000 plus or minus 2 inches for distances of 500 feet to 35 miles. The tellurometer measures distance by determining the length of time required for the microwave to traverse the distance.

Another instrument called the geodimeter determines distance by the length of time required for the light wave to travel to the distant point and return.

The electronic computer is very rapidly coming into general use for solving highway problems. The computer is now successfully working the earthwork problem which has been one of the most time consuming problems facing the highway engineer of the past. It is also being successfully applied to the traverse problem, many stress problems, the solar observation, and even to the right-of-way problem. The development of programs is advancing rapidly, and the complete application of the computer to all of the laborious problems of the past is certain to become a reality soon.

At the present time, it is possible to prepare cross section data for the electronic computer direct from the stereoplotter without relying on the plotter operator to record or even speak the data. It is true that he must still place the floating dot on the ground by manual operation, but once in position, he has only to punch a button to have the machine both type the necessary data and enter it in the tape or card for the computer. In the event that the engineer deems a plotted cross section necessary, a modern electronic machine will take the information from the tape and actually draw it on the cross section paper or cloth.



Kelsh Stereoplotter in Operation



The Tellurometer in Use

A system has been developed whereby the information obtained photogrammetrically is placed directly on magnetic tape to create a digital terrain data system. The electronic computer will then give the engineer actual information concerning earthwork volumes over a number of trial alignments enabling him to choose the most economical alignment from the standpoint of the amount of earthwork involved.

The next step required is to speed up the process of obtaining the information from the stereo model, is to develop a system of electronically (or otherwise) scanning the model and recording the information without relying on the operator to place the point of light in contact with the apparent earth's surface. Undoubtedly, this last mentioned step will be taken in the near future.

If anyone reading this article is anxious about what he will have to do in the future, he may put his mind at ease. The machines cannot think, although sometimes it almost seems that they do. The decisions made by the machines are made only on the basis of the rules which are given to it by the engineer. By utilizing the modern methods, the engineer in the future will have more time to create while the technicians are operating the mechanized equipment.

74TH ANNUAL CONVENTION AT ROCKFORD, APRIL 30, MAY 1-2

Start planning now to attend I.S.P.E.'s 74th Annual Convention at Rockford on April 30, May 1 and 2.

Your Convention Committee (cover picture) gives a partial "sneak preview" of the wonderful program they are planning:

1. Faust Hotel Headquarters, April 30, May 1-2.
2. James D. Piper, Vice-President of the Portland Cement Association, luncheon speaker for Thursday, April 30.
3. Dr. Clark Dunn, President of N.S.P.E., will be the luncheon speaker on Friday, May 1.
4. Paul Doll, Executive Director of the Missouri Society of Professional Engineers, will speak Friday afternoon.
5. An outstanding banquet speaker will be named soon.
6. Buffet at Wagon Wheel on Thursday evening, with a variety of entertainment (bowling, swimming, and dancing). A cocktail hour will be sponsored by Streater Drain Tile Company.
7. Banquet on Friday, May 1, with presentation of Illinois Award. Cocktail hour sponsored by the Illinois Concrete Pipe Manufacturers Association.

LATE BULLETIN PROFESSOR HARDY CROSS PASSES AWAY

Professor Hardy Cross, associated with the University of Illinois from 1921-1937, died at Portsmouth, Virginia, February 11, one day after celebrating his 73rd birthday, February 10. Professor Cross became renowned for his work relative to "moment distribution in structural analysis". Last Fall Professor Cross received the Gold Medal Award from the Institute of Structural Engineers in London, England. It is the highest award of the Institute, and he was the first American to receive this Award. He was to have received Honorary Membership in the American Concrete Institute at the A.C.I. Winter Meeting in Los Angeles. The Virginia Society of Professional Engineers had nominated Professor Cross for the 1959 N.S.P.E. Engineer of the Year Award, and on January 10 the Illinois Society of Professional Engineers' Board of Direction endorsed Professor Cross for the N.S.P.E. Award.

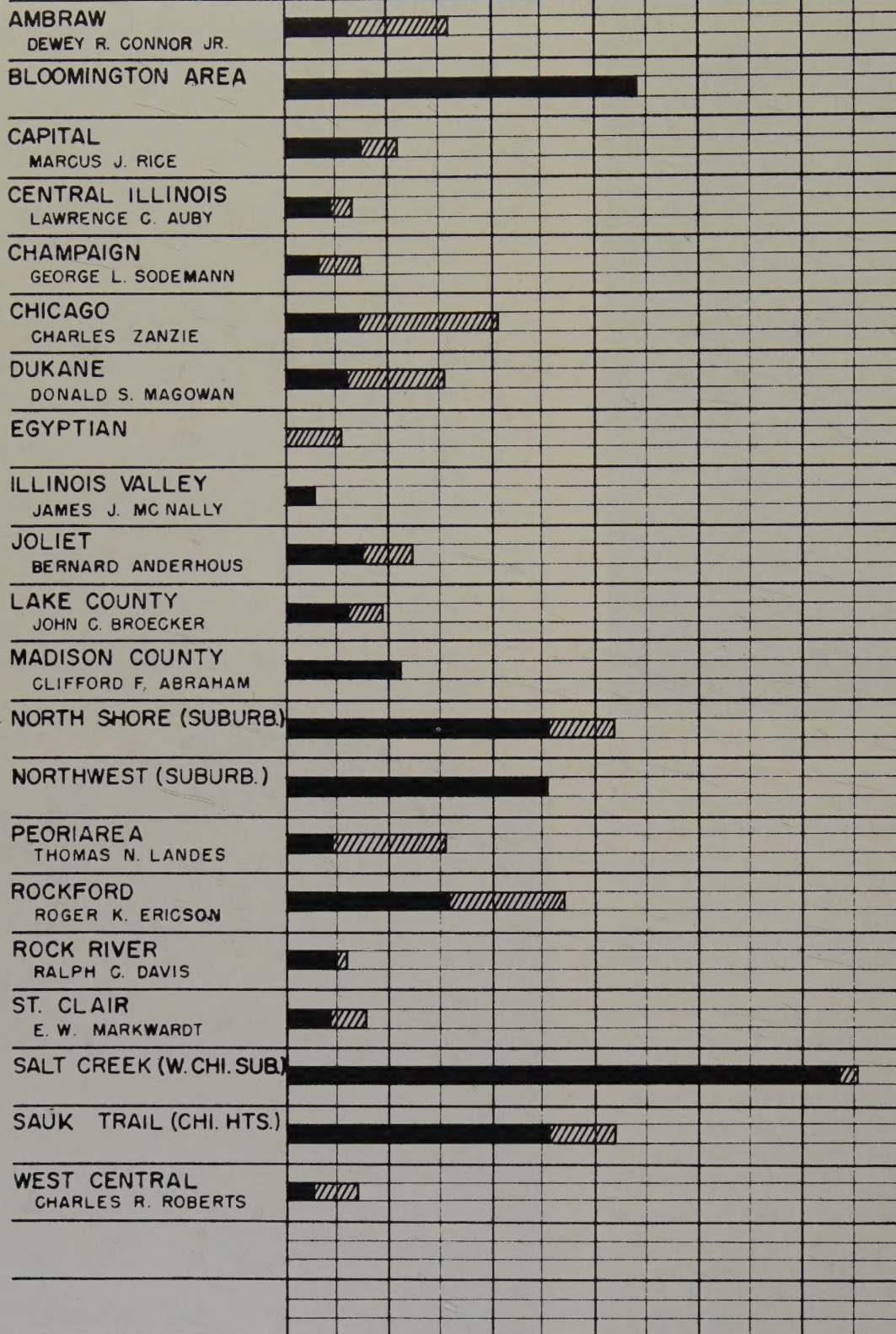
I.A.H.E. ELECTS OFFICERS FOR 1959

I.S.P.E.-N.S.P.E. Member Albert H. Ferger, of Rock River Chapter, has been elected as Chairman of the State Board of Directors of the Illinois Association of Highway Engineers for 1959.

Other officers of I.A.H.E. include William M. Kennedy, of Paris, Treasurer; and Edward A. Brooks, of Springfield, as Secretary.

MEMBERSHIP CAMPAIGN PROGRESS

0 20% 40% 60% 80% 100% 120%



HONOR ROLL

R. Ericson	26
C. J. McLean	8
C. E. Zanzie	8
Linas Brown	5
Ralph C. Davis	5
B. Anderhous	4
E. R. Bolo	4
R. D. Collins	4
R. C. Hahn	4

THE FIRST FIVE

Salt Creek	116%
Bloomington Area	68%
North Shore	64%
Sauk Trail	64%
Rockford	54%

ILLINOIS SOCIETY

HAROLD F. SOMMERSCHIELD

0 333 500 632 1000 1500 2000

2000 OR BUST

For Contest Purposes, Percentages on Chapters Organized After April 1958 are Computed on a Basis of 25 Member Starting Base. Overall Percentage of Objective-31.6 %

— 2000 —

Dear Fellow Member (This Means You):

Time is rapidly running out on us. If we do not put on a last-minute press, the game will be lost.

Every one of us has been in contests when victory seemed impossible. Then, through the inspired effort of one member of the team, a rally was started and the game put on ice.

TIME OUT

It is inconceivable that any of us will accept defeat without a fight. It is equally inconceivable that any one of our membership will deny the rejuvenated potency of I.S.P.E.

Gentlemen, our Society is going places. We have a Society of which we can be proud—one we can sell. It is inevitable that the enthusiasm of our leadership will catch fire one of these days.

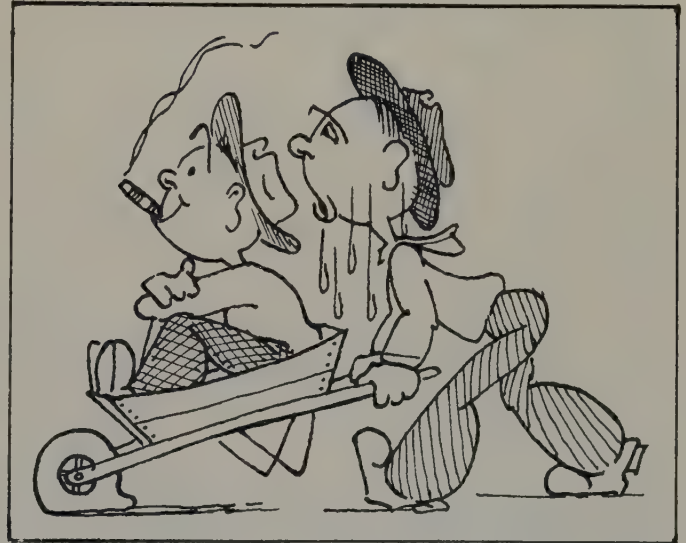
Won't you step into the breach and be one to spark that last-minute rally which will inspire every other member who comes in contact with you to put forth that extra effort which will assure a victory in our membership campaign?

YOUR MEMBERSHIP COMMITTEE

— 2000 —

WHO WILL RIDE?

Last October during a Membership Committee meeting held in Springfield, challenges in the campaign were made and taken by various chapters of I.S.P.E. Now, almost five months later and with less than two months before the race is over, I.S.P.E. has increased its membership by 333 new members and 299 Introductory Members. Basing percentage gains on new members secured, it appears to be a neck-and-neck race in several of the contests.



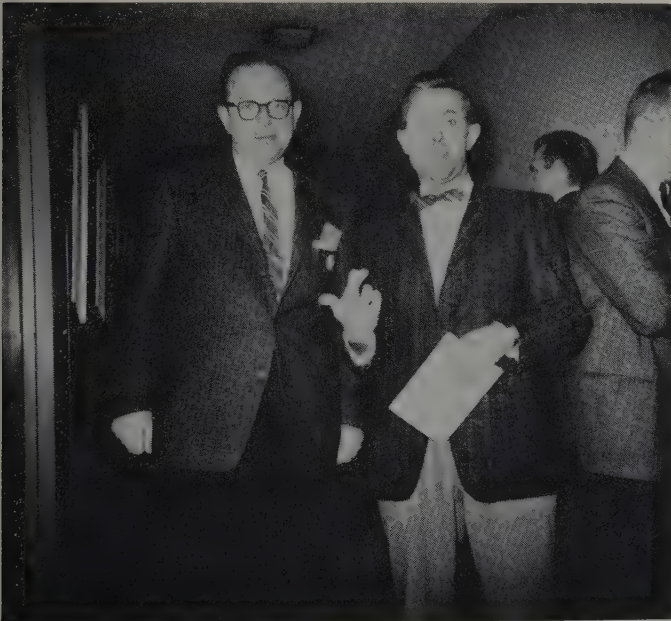
Losers in the race agreed to give the winning Membership Chairman a wheelbarrow ride down the main street of Rockford at the 1959 Convention. At this point, and with a few "late-comers" beginning to show strength, it would seem that the following chapter membership chairmen will ride, with the pushers also listed:

RIDING

Capital	15.0%
Rockford	31.5%
Joliet	14.0%
Madison	21.8%
Salt Creek.....	108.0%
DuKane	11.9%

PUSHING

Champaign	7.2%
Peoriarea	8.2%
Lake County.....	12.2%
West Central	5.1%
Sauk Trail	52.0%
Rock River	10.4%
St. Clair	8.6%
Chicago	14.0%
Egyptian%
*Illinois Valley ...	5.6%
*Ambraw	12.9%
North Shore vs. Northwest Suburban—tied.....	52.0%



With Rockford paired against Peoriarea Chapter in the I.S.P.E. Membership Contest, Roger Ericson smiles while Tom Landes keeps his fingers crossed in hopes that he won't have to push that wheelbarrow. Ericson is big, and so is Rockford's list of new members!

CHAPTER ACTIVITIES



J. D. Williams and D. S. Magowan

Capital Chapter reports two surprise and distinguished visitors at its January 27 meeting. Shown above are Jim Williams, left, who is with the International Co-operation Administration, doing sanitation work. His assignments have taken him to Mexico and Guatemala, and he reported his next assignment is to Rio de Janiero, where he will be the Principal Consulting Sanitary Engineer to the Government of Brazil. Jim retains his Capital Chapter membership in I.S.P.E.-N.S.P.E.

I.S.P.E. Vice-President and President-elect D. S. Magowan, right, also renewed old acquaintances at the meeting. "Mac" is a Past-president of Capital Chapter and is District Engineer in Highway District No. 1 at Elgin.



Capital Chapter Officers

Front row, l. to r., Gerald Margrave, Secretary; Charles A. Nelson, President; Charles Ritchie, Vice-President. Back row, l. to r., LeVerne Hudson, Vice President-Elect of I.S.P.E.; R. D. Collins, Representative; and Charles Marr, Treasurer.

SPECIAL LEGISLATIVE BULLETIN

(Continued from Page 4)

Department of Registration and Education, and prescribing penalties, and to repeal an Act herein named" approved July 11, 1951, as amended;

(k) To license, supervise and regulate public accountants as provided by "An Act to regulate the practice of public accounting and to repeal certain Acts therein named", approved July 22, 1943, as amended.

Another feature of this Bill is the transfer of the Division of Highways to the Department of Transportation. Section 5.11 provides for a Superintendent of Highways, who presumably will be the equivalent to the present Chief Engineer.

This information is provided at this time without a statement of opinion.

THE CONSULTING ENGINEERING FIRM of Clark, Daily & Dietz announce the addition of Dr. W. D. Painter as a partner. Dr. Painter has been an associate in the firm since early in 1957. He was professionally associated with the other three partners at different times prior to 1957. He will continue to manage the Memphis office. Just before joining Clark, Daily & Dietz in 1957, Dr. W. D. Painter had been Associate Professor of Civil Engineering at the University of Tennessee, and prior to that in 1947 and 1948, he was Structural Engineer in the Bridge Department of the Southern Railway System in Knoxville, Tennessee.

Dr. Painter received both his M.S. and Ph.D. degrees from the University of Illinois and in 1953 and 1954 worked as structural engineer for the Bridge Department of the Illinois Division of Highways.

Also Messrs. Clark, Daily and Dietz are announcing at this time that the following men are Associates in the firm: H. W. Byers, P. W. Clinebell, B. C. Conklin, D. R. Smith, M. Fuat Tigrak, Jamison Vawter, A. G. Cox and D. J. Henry. Mr. Cox and Mr. Henry moved from Urbana to Memphis in 1956 when the Memphis office was opened. Since 1956 the office there has grown rapidly and not long ago moved to a new location in downtown Memphis at 188 Jefferson Street.

With the exception of Mr. Vawter, all the Associates have been students of one or more of the partners, but all of the partners are former students of Professor Vawter. Mr. Vawter joined the firm when he retired from the Civil Engineering Department one year ago.

Messrs. Conklin, Smith, Henry and Cox came with the firm shortly after it was started. Mr. Byers came here from Dixon, Illinois, over one year ago. Mr. Clinebell had worked with the firm summers before he joined the firm permanently in January, 1956.

Dr. Tigrak started with Clark, Daily & Dietz in early 1957 in Kansas City, Kansas, on a project in that city.

11TH CHAPTER OFFICERS' CONFERENCE DRAWS LARGE ATTENDANCE

The largest attendance at any of the eleven Chapter Officers Conferences was on hand in Peoria on January 31, with 74 I.S.P.E. members representing 17 chapters.

Under the direction of John E. Housiaux, Chapter Activities Chairman and Secretary-elect, the morning program was as follows:

"You're Not Alone"—LeVerne D. Hudson and Clifford E. Missman, Assistants to the President.

"The National Outlook"—C. J. McLean and Robert A. Brown, National Directors.

"Communications"—James P. Murphy, Secretary-Treasurer; L. C. Goddard, Executive Director; Mary Watt, Office Manager.

Following lunch, President Frank W. Edwards spoke on the subject "Professionalism Has Its Price."

The afternoon session included a talk by Donald S. Magowan, Vice President, titled "Fork of the Road," and one by I.S.P.E. Membership Chairman H. F. Sommerschild.

The final hour of the conference was devoted to a question-and-answer period, "Feedback," and ended with a summary by the conference chairman.



John E. Housiaux, standing, summarizes program of Chapter Officers Conference.

The conference was one of the most successful ever held and will undoubtedly aid all those who attended to blueprint a more successful and active chapter year. Each Chapter was encouraged to hold its own Chapter Committee Conference soon.



In Tampa, Fla., an inverted syphon, made of Dickey Clay Sewer Pipe, is laid with a 20° deflection across a drainage ditch—part of Tampa's 10 million dollar project.

Dickey Pipe selected to carry corrosive wastes in Tampa

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LADIES' ACTIVITIES AT 74TH ANNUAL MEETING



Mrs. Roger Ericson, center, Chairwoman of the Ladies' Program for the State Convention, and her committee make plans for the 74th Annual Meeting of I.S.P.E. Other members of the Committee are, left to right: Mrs. Robert Carlson, Mrs. Richard Nordlof, Mrs. George Booth, and Mrs. Richard Thornton.

Plans for ladies' activities at the 74th Annual Meeting of the Illinois Society of Professional Engineers, to be held in Rockford on April 30, May 1 and 2, are well under way. The following partial program is scheduled for the ladies to enjoy:

THURSDAY, APRIL 30

8:00-10:00 a.m.	Registration and Reception Coffee Hour Cars for sightseeing, shopping Connie's Gift Shop
11:30 a.m.	Transportation to luncheon from Hotel for those not shopping
11:45 a.m.	Luncheon: Rockford Women's Club Food Shop, \$2.00
1:00-1:30 p.m.	Tour of Women's Club Flower Arrangement Program

2:30 p.m.

8:00 a.m.
10:00 a.m.
10:30 a.m.
12:00 noon

2:30 p.m.

Choice of Tours:
Rockford College
Erlander Home, Swedish Historical
Shopping
Tinker Cottage
Return to Hotel for cards

FRIDAY, MAY 1

8:00 a.m.	Registration
10:00 a.m.	Bus leaves for tour
10:30 a.m.	Tour of Merman Furniture Co.
12:00 noon	Luncheon at Sweden House Stuga Emporium—Gift Shop, \$2.00 Door Prizes
2:30 p.m.	Tour of the Y.W.C.A. Mrs. Roland Schlitz, Yorkville— Travel Films Tea

A large concrete pipe is being lowered into a trench by a crane. The pipe is suspended by a hook and chain. In the background, a crane and several workers are visible. The pipe is being lowered into a trench that has been excavated and lined with concrete. The pipe is being lowered into the trench in a way that it will be part of a larger structure.

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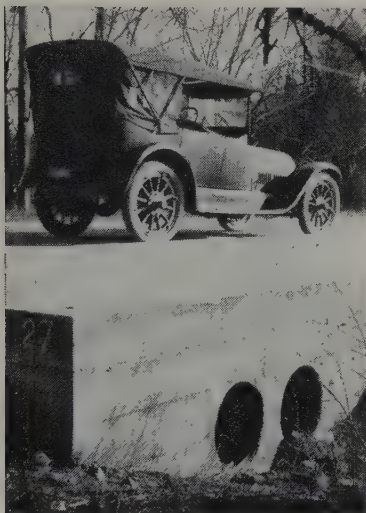
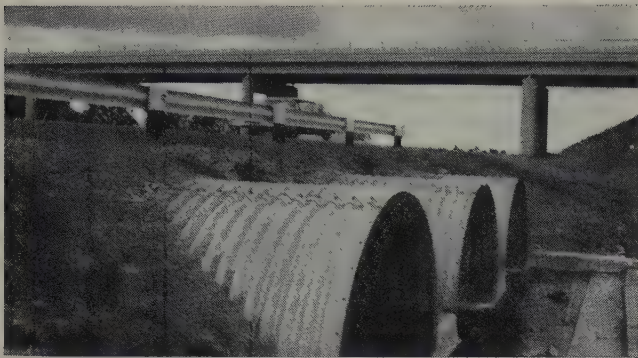


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both new freeway
and old highway



Above, three lines of Armco MULTI-PLATE® Pipe-Arch provide stream crossing on new freeway in Ohio. 1923 photo, left, shows Armco Pipes installed under the original highway in 1907.

A modern 4-lane freeway now replaces the original 1907 highway. The old road still carries local traffic and the 51-year-old Armco Pipes are in good condition. On the new freeway, Armco Pipe again met all requirements.

This same story is being repeated all over the country. *Proved durability* is influencing engineers to specify Armco Products for the newest highways, expressways, and freeways. Write us for the new folder giving concise data on the complete line of Armco Drainage Structures. Armco Drainage & Metal Products, Inc., 426½ S. Fifth Street, Springfield, Ill., or 20 North Wacker Drive, Chicago, Illinois.



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ration • Southwest Steel Products

SIXTH BIENNIAL LEGISLATIVE

DINNER SET FOR MARCH 17



Legislative Dinner Committee at Work

The date of March 17 has been set for the Sixth Biennial Legislative Dinner to be given by the Illinois Society of Professional Engineers and Capital Chapter.

Chairman J. O. Whitlock, center, and committee members R. M. Nankivil, left, and Chas. R. Ihlenfeldt, right, are busy as beavers these days making final plans for the affair.

Place: Abraham Lincoln Hotel, Springfield, Illinois.

Time: March 17—Cocktail Hour, 6-7 p.m. Dinner, 7 p.m.

Chapter officers are asked to plan your chapter's participation and invite your home district law-makers and municipal officials to this gala affair as your chapter's guests. A great evening of entertainment is planned (no speeches), with I.S.P.E. Past President Clarence Klassen as Master of Ceremonies.

Details for making reservations have been sent to all Chapter Secretaries. Get yours in early!

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PEORIA, ILLINOIS

STRUCTURAL ENGINEERING LICENSE REQUIRED FOR SOIL AND FOUNDATION ENGINEERING PRACTICE"

Submitted by LOUIS BACON, Secretary, Chicago Chapter
Ethics and Practice Committee

The State of Illinois has in effect two acts restricting the practice of engineering in the state. These are the Illinois Professional Engineering Act and the Illinois Structural Engineering Act. Registration under the Structural Engineering Act is required of each person who is engaged in the designing or supervising of the construction, enlargement or alteration of structures, or any part thereof, for others, to be constructed by persons other than himself."

Since the science of soil mechanics and foundation engineering is a relatively new field, some confusion has arisen as to whether the various stages involved in the practice of soil mechanics and foundation engineering are of a professional character. These stages include the following (in the sequence in which they normally occur):

1. Drilling and Sampling Operations
2. Laboratory Testing of Soil Samples
3. Engineering Reports and Recommendations
4. Design of Foundations

It is generally agreed that the performance of drilling and sampling operations according to predetermined specifications is not in itself a professional service. However, when the service includes determining the proper specifications to be followed under various conditions and includes engineering supervision of the drilling and sampling operations, such service should be considered professional in character. This is particularly true when the person or firm performing the sampling operations is also responsible for classification of the soils, since these classifications become the basis for the design of foundations and inaccurate classification can result in serious structural damage or uneconomical design.

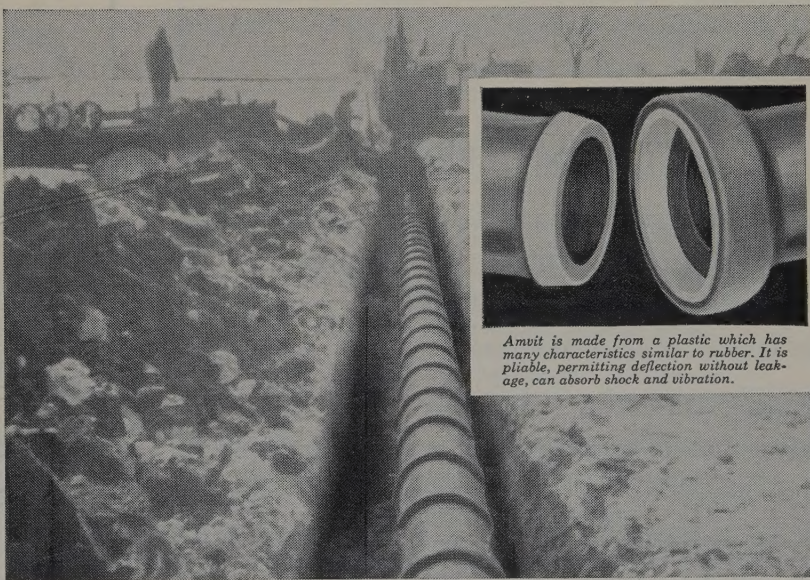
Laboratory testing of soils should be distinguished from testing of concrete and asphalt materials. This is advisable since there are considerable differences in the amount of engineering judgment required in the proper performance of the testing covered in the two categories. Concrete and asphaltic mixtures are man-made and subject to considerable control, whereas, in contrast, soils are a natural material, are seldom homogeneous, and are considerably less predictable. Furthermore, the properties of soil vary much more than the properties of concrete or asphalt and engineering judgment must enter into the testing of soils and in the proper presentation of the test results in order that correct interpretation of the data can be obtained.

Stop Infiltration with Streator's New Amvit Joint

No matter what the conditions—muddy, narrow trenches; high ground water levels; or even completely under water—engineers and municipalities can now build completely water-tight sewers with Streator's new Amvit Jointed Clay Pipe.

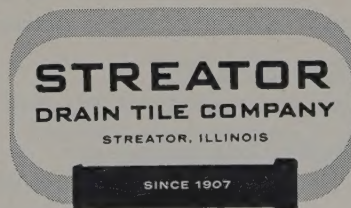
Permanently bonded to Streator Clay Pipe at the factory, this acid-resistant joint is flexible enough to deflect slightly during normal back-filling and settling. Yet the joint maintains a perfect seal to keep ground water out and wastes in.

Streator Clay Pipe and adapters fitted with root-proof Amvit Joints are immediately available, in all diameters from 4 to 24 inches. Shipments are quickly and immediately made to the job site from our nearby and modern plant.



Amvit is made from a plastic which has many characteristics similar to rubber. It is pliable, permitting deflection without leakage, can absorb shock and vibration.

For more information, see your supplier, or write or call Streator Drain Tile Company, Streator, Illinois.



With reference to the engineering and analysis and preparation of reports and recommendations regarding the design and construction of foundations, an opinion has been expressed by the State Department of Registration and Education that registration as a Structural Engineer is required of any person who offers Foundation Engineering Services of this type to the profession and to the public. Although an employee of a registered architect or structural engineer would not be required to obtain registration as a Structural Engineer to perform foundation engineering services including preparation of reports, any person or firm offering to prepare such reports or actually preparing such reports for other firms or individuals should be registered as a Structural Engineer if the firm is an individual, or the firm should be directed by a Registered Structural Engineer if the firm is a corporation.

The actual preparation of foundation plans and specifications is normally the function of the Structural Engineer who designs the superstructure, and there has seldom been any question but that registration as a Structural Engineer is required to prepare these plans. However, the importance of the decisions relative to design pressures and foundation types, which decisions are generally included in a foundation engineering report, cannot be overemphasized, since these engineering decisions are the ones that actually determine the type and dimensions of the foundations, the specifications, and determine to a considerable degree the total cost of the foundations as well as the safety of the structure.

COMING EVENTS

Salt Creek Chapter Charter Night.....	March 3
Capital Chapter Biennial Legislative Dinner, Abraham Lincoln Hotel.....	March 17
Lake County Chapter Meeting.....	March 18
North Shore Chapter Meeting.....	March 18
West Central Chapter Meeting.....	March 18
Bloomington Area Chapter Meeting.....	March 19
DuKane Chapter Meeting.....	March 19
Northwest Suburban Chapter Charter Night..	March 20
Champaign County Chapter Meeting.....	March 23
Joliet Chapter Meeting.....	March 25
I.S.P.E. 74th Annual Convention, Rockford.....	April 30, May 1-2
N.S.P.E. Silver Anniversary Convention, Hotel Commodore, New York.....	June 17-20

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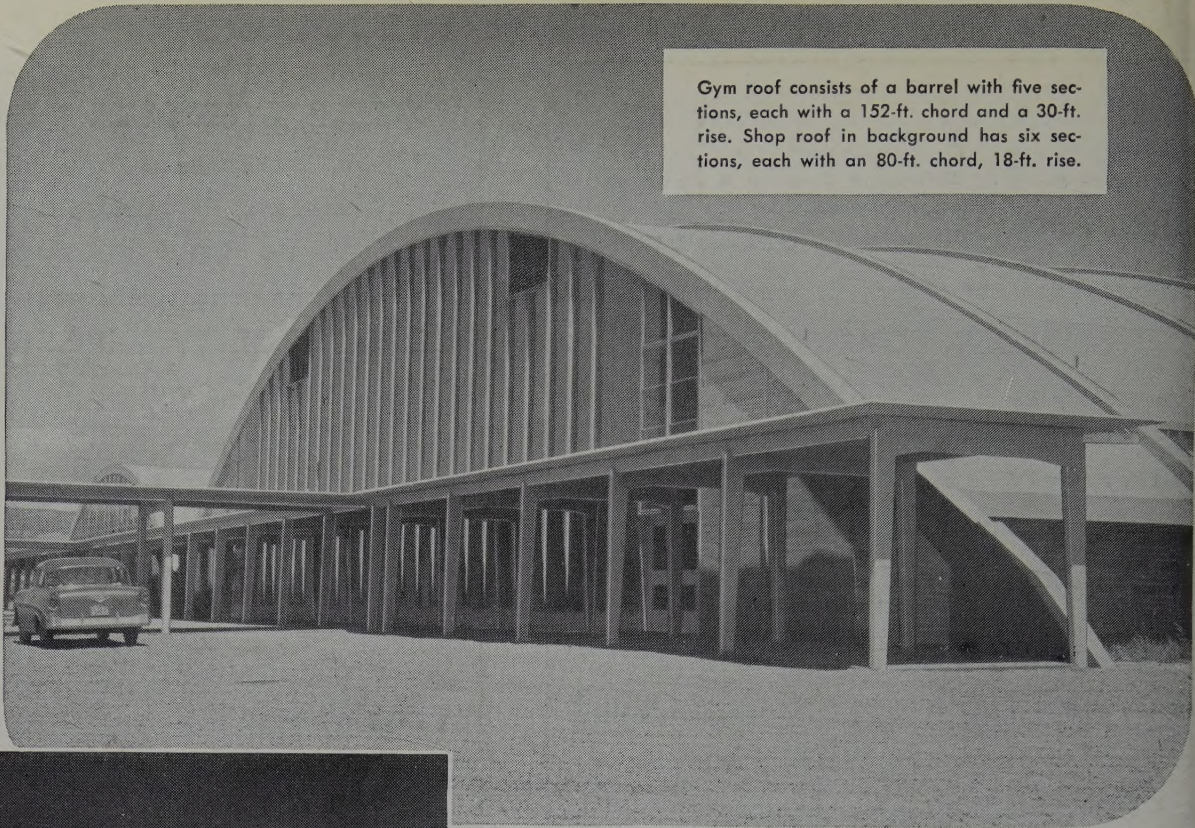
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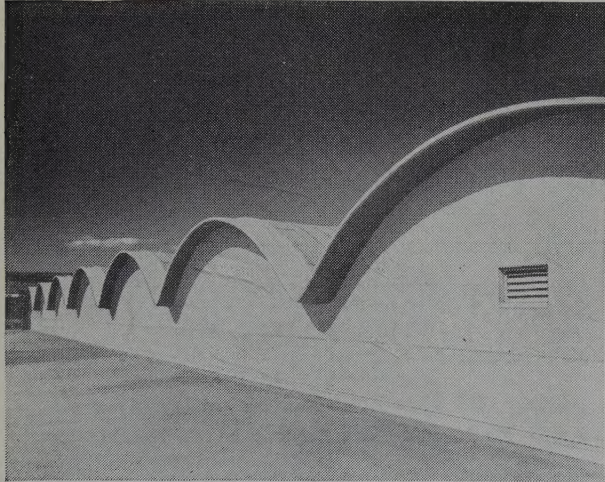
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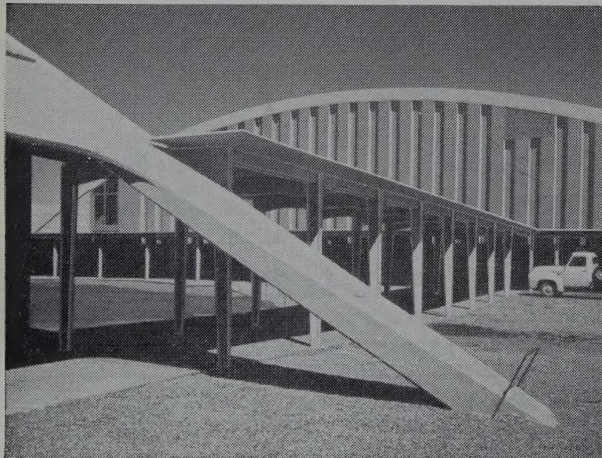
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Gym roof consists of a barrel with five sections, each with a 152-ft. chord and a 30-ft. rise. Shop roof in background has six sections, each with an 80-ft. chord, 18-ft. rise.



The roof of the multi-purpose building, above, consists of seven 60-ft.-long barrels, each with a 32-ft. chord and 23-ft. radius. Photo below shows the type of covered walks (pre-cast concrete bents) used on the campus. The architect was Maloney & Whitney, Yakima, Wash. The structural engineer was Worthington & Skilling, Seattle. The contractor was Wall, Bartram & Sanford, Wood Village, Troutdale, Oregon.



CONCRETE SHELL ROOFS answer school's need for unobstructed floor areas

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Shell roof construction provided the unobstructed floor area required. It was economical to build and opened unusual design opportunities to the architects.

More and more architects and engineers are turning to concrete shell roofs for structures requiring open floor areas. Roofs with spans up to 300 feet and more can be built without any interior columns. In addition to school buildings such as shown here, concrete shell roofs are ideal for auditoriums, exhibition pavilions, hangars, field houses, train sheds, repair shops for large equipment, garages and warehouses.

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